

WHAT IS CLAIMED IS:

1. A measuring device for immunochromatography test piece comprising an irradiation optical system for irradiating measurement light to an immunochromatography test piece, and a detection optical system for detecting reflected light from the immunochromatography test piece under irradiation with the measurement light,

5 wherein the irradiation optical system comprises a semiconductor light emitting element and is placed so that light from the semiconductor light emitting element is irradiated as the measurement light from a direction substantially normal to the immunochromatography test piece, and

10 wherein the detection optical system comprises a semiconductor photodetector provided at an obliquely upward position in a direction substantially parallel to a colored line formed on the immunochromatography test piece, with respect to an irradiation position of the measurement light on the immunochromatography test piece, and is placed so 15 that the semiconductor photodetector detects obliquely upward reflected light in the direction substantially parallel to the colored line.

20 2. The measuring device for immunochromatography test piece according to Claim 1, wherein the irradiation optical system further comprises:

25 a beam shaping member for shaping the light from the

semiconductor light emitting element, into a beam of a beam section extending in the direction substantially parallel to the colored line formed on the immunochromatography test piece; and

5 a lens for focusing the beam from the beam shaping member on the immunochromatography test piece.

3. The measuring device for immunochromatography test piece according to Claim 1, further comprising:

10 ..... an optical head on which the irradiation optical system and the detection optical system are mounted;

a pedestal for placing of the immunochromatography test piece; and

15 a scanning mechanism for effecting relative movement between the pedestal and the optical head in a scan direction traversing the colored line.

4. A measuring device for immunochromatography test piece comprising:

a pedestal on which an immunochromatography test piece is placed

20 an irradiation optical system for irradiating measurement light toward the pedestal; and

a detection optical system for detecting light incident from the pedestal side,

25 wherein the irradiation optical system and the detection optical system move relative to the pedestal in a predetermined scan direction,

wherein the irradiation optical system comprises a semiconductor light emitting element and is placed so that light from the semiconductor light emitting element is irradiated as the measurement light from a direction 5 substantially normal to the pedestal, and

wherein the detection optical system comprises a semiconductor photodetector provided at an obliquely upward position in a direction crossing the predetermined scan direction, with respect to an irradiation position of the 10 measurement light on the pedestal, and is placed so that the semiconductor photodetector detects obliquely upward reflected light in the direction crossing the predetermined scan direction.

5. The measuring device for immunochromatography test 15 piece according to Claim 4, wherein the irradiation optical system further comprises:

a beam shaping member for shaping the light from the semiconductor light emitting element, into a beam of a beam section extending in said direction crossing the 20 predetermined scan direction; and

a lens for focusing the beam from the beam shaping member.

6. The measuring device for immunochromatography test piece according to Claim 4, further comprising:

25 an optical head on which the irradiation optical system and the detection optical system are mounted;

a scanning mechanism for moving the optical head in the predetermined scan direction; and

a chassis on which the scanning mechanism is placed.

7. The measuring device for immunochromatography test piece according to Claim 6, wherein the chassis comprises a pair of vertical wall portions located on both sides of the pedestal with the pedestal in between, and a top portion coupled to each of the vertical wall portions,

wherein the scanning mechanism comprises a slider block to which the optical head is fixed, a pair of guide rails for guiding the slider block in the predetermined scan direction, and a drive motor for moving the slider block in the predetermined scan direction,

wherein the pair of guide rails are fixed to the top portion, and

wherein the optical head moves in the predetermined scan direction in a space surrounded by the pair of vertical wall portions and the top portion.

8. The measuring device for immunochromatography test piece according to Claim 7, wherein the slider block and the pair of guide rails are placed on a surface of the top portion opposite the space surrounded by the pair of vertical wall portions and the top portion,

wherein in the top portion, a cut extending in the predetermined scan direction is formed at a position between the pair of guide rails, and

wherein the optical head and the slider block are coupled and fixed to each other through the cut.

9. The measuring device for immunochromatography test piece according to Claim 7, further comprising:

5 a first board placed outside the chassis;  
a second board fixed to the optical head; and  
a communication cable with flexibility and elasticity  
for electrically coupling the first board and the second  
board to each other,

10 wherein the communication cable is routed so that the  
cable runs through a hole formed in one vertical wall  
portion, into an interior of the chassis, extends along the  
one vertical wall portion, and is curved from an edge of the  
one vertical wall portion toward the other vertical wall  
15 portion through an exterior of the chassis, and

wherein a portion of the communication cable located  
in the interior of the chassis is fixed to the one vertical  
wall portion.

10. The measuring device for immunochromatography  
20 test piece according to Claim 6, wherein the pedestal is  
detachably attached to the chassis.